

AMENDMENTS TO THE CLAIMS

Claim 1 (Currently Amended): An apparatus A microwave tunable device for use in one of a phase array antenna system and a satellite communication system, comprising:

a microwave tunable device is included in a phase array antenna system, the microwave tunable device including:

a MgO substrate;

a ferroelectric/dielectric  $(Ba_{1-x}Sr_x)TiO_3$  (BST) thin film ~~of~~ oriented in a (111) direction which is formed on the MgO substrate, wherein x is a number and represents a composition ratio; and

an electrode pattern formed on the ferroelectric/dielectric BST thin film.

Claim 2 (Currently Amended): The apparatus of claim 1 microwave tunable device as recited in claim 1, wherein the ferroelectric/dielectric BST thin film is grown by performing a laser ablation.

Claim 3-7 (Canceled)

Claim 8 (New): An apparatus comprising:

a microwave tunable device is included in a satellite communication system, the microwave tunable device including:

a MgO substrate;

a ferroelectric/dielectric  $(Ba_{1-x}Sr_x)TiO_3$  (BST) thin film oriented in a (111) direction which is formed on the MgO substrate, wherein x is a number and represents a composition ratio; and

an electrode pattern formed on the ferroelectric/dielectric BST thin film.

Claim 9 (New): The apparatus of claim 8, wherein the ferroelectric/dielectric BST thin film is grown by laser ablation.